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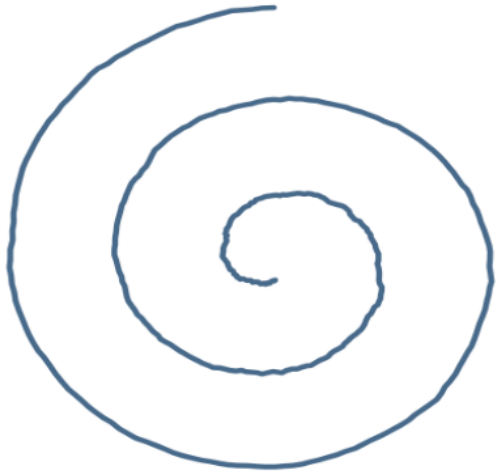

NATURE DOES NOT EXIST

A Cultural History of the Environment

Giovanni Martini

Nature Does Not Exist

A Cultural History of the Environment

Errancies · 2 — Giovanni Martini

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Originally published in Italian as La Natura non Esiste — Una storia culturale dell'ambiente *(Collana Erranze, vol. 7).*

The Italian original was written by the author, who rewrote rather than translated it for this English edition, working with artificial intelligence tools throughout.

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Prologue: The Word and the Landscape

A View

On the Altopiano di Pine', in Trentino, twenty kilometres north-east of Trento, there is a light in late summer that leaves you no way out. Mountains close the horizon on every side, the lakes lie below, and everything is still, everything silent, everything in the order things seem to have when nobody is touching them. *Nature at last*, someone thinks. *Real nature.* The words that carry the weight are *at last* — as though the city had been an interruption and this were the place one comes back to: the porphyry, the larches, the spruce and silver fir, the beeches, the birches, the sky. The real thing.

Look more closely.

The meadows at the edge of the wood are the work of centuries of grazing; take the cattle away and they would be forest again within a few decades. The wood itself has been managed for just as long, for building timber, firewood and charcoal, and the trees that look oldest and least touched are usually the ones somebody, at some point, decided not to cut. The two largest lakes on the plateau are not even two separate phenomena: Lago delle Piazze is a dammed reservoir fed from Lago di Serraia, and its water runs down penstocks to a hydroelectric station. What looks like a natural sequence of lakes is a machine. The paths are there because for generations people carried things up and down the mountain along them. Even the Dolomites on the skyline are the compressed remains of tropical coral reefs from two hundred and fifty million years ago, long before anything on this planet could be called human.

Real nature is the phrase we reach for in front of a landscape shaped from end to end by human presence, layered, thousands of years deep, largely invisible. We call it natural because we cannot see the hands that made it. The hands were there.

This is not a local curiosity. It is the condition of the planet. Bill McKibben said so in 1989, in a book whose title was a charge sheet: *The End of Nature*. The argument was simple and hard to answer. No corner of the Earth is left that does not carry the chemical, biological or climatic signature of human activity. There are microplastics in Arctic ice. The Amazon advances or retreats according to decisions taken in Brasília and Washington. Even the composition of the

atmosphere, the balance of oxygen, nitrogen and carbon dioxide that made complex life possible here, has been measurably altered by industry and transport. Not at some point in the near future. Now, already, for decades.

Nature as a separate and intact kingdom, a space that exists independently of us, is gone. If it was ever there.

The Problem of the Word

Raymond Williams published a strange dictionary in 1976. *Keywords* contained no definitions, only histories: how a handful of terms that modern culture leans on came by the meanings they now carry, through which quarrels, which appropriations, which reversals. His entry on *nature* opens with a sentence that has outlived the book. "Nature is perhaps the most complex word in the language."

He was writing about English, but nothing in the sentence depends on English. The word carries at least three meanings, often overlapping and sometimes at war with each other.

The first is nature as essence: the nature *of* something, what it is once the accidents are stripped away. *It's in his nature.* Human beings have a nature in this sense too, and arguing about what it consists of is one of Western philosophy's oldest amusements.

The second is nature as force: the power that runs the physical world, a principle of order and of change. *Nature is generous. Nature is cruel. Nature takes its course.* Here nature is a subject, close to an agent with intentions, or at least with a logic of its own.

The third is nature as territory: the material world taken together and set apart from human civilisation. *Out in nature. Respect nature. Destroying nature.* This is the sense that governs contemporary ecological argument. It is the youngest of the three and the most treacherous.

Because if nature is whatever is not human, then human beings stand outside nature by definition. We are the one species that its own taxonomy excludes from the natural world. A dam built by a beaver is natural; a dam built by an engineer is not. The difference is not physical but categorical, and we drew the category ourselves, in order to place ourselves on the far side of it.

The word gives itself away every time it goes out in public. On a pot

of yoghurt: *natural ingredients*. On the hoarding round a building site: *homes surrounded by nature*. In a political campaign: *the laws of nature*. On a protest banner: *save nature*. In a moral verdict: *against nature*. The same word, used on the same day, a few streets apart, producing meanings that are not merely different but opposed: *natural* as a guarantee of purity and *natural* as a sentence passed, nature as a refuge from the human and nature as the source of the laws the human must obey.

A word asked to say all of this may end up saying nothing. Or worse, it may say something quite precise without the person using it noticing.

The Thesis

This book argues that nature, understood as a realm separate from human civilisation, coherent, self-governing, holding value and laws of its own, is a cultural invention of the modern West. Not the oldest of human ideas, as we tend to assume, but one of the most recent. It took recognisable shape in the seventeenth and eighteenth centuries, reached its height in the nineteenth and twentieth, and is coming apart in the twenty-first, at exactly the moment when human pressure on the planet makes the border between the human world and everything else impossible to maintain.

Nature does not exist is not a nihilist provocation. It is a historical claim, and it has consequences.

It does not mean that trees are illusions, or rivers, or mountains, or oceans, or animals. It means that the container we group them in, the one we call nature, which assumes a coherence, an autonomy, a boundary against the human, was built. Philosophers, poets, scientists, painters, politicians and advertisers built it, at identifiable moments, for identifiable reasons, with identifiable effects. Like everything else that was built, it has a history, and that history is partly the history of how we came to think about the world in the way we do.

If the ecological crisis is the ruin of something eternal that was here before us, we are left with an enormous moral problem and almost no tools for handling it. If the ecological crisis is the outcome of particular choices, made by particular people, at particular moments, then it can be understood, taken apart, and answered with different choices.

What follows traces the building work: from the first separations in Greek philosophy to Descartes's machine, from the Romantic sublime to ecology as a science, from the Anthropocene to the current attempts to think about the human and the non-human without the alibi of nature. It ends on a question worth more than most answers. What, exactly, do we mean to protect when we say we want to protect nature? And why?

Part One: Before Nature, Other Ontologies

The Western Cut

Philippe Descola reached the upper Ecuadorian Amazon in 1976. He was twenty-seven, he had studied under Claude Lévi-Strauss in Paris, and he went to live among the Achuar, a forest people with no settled contact yet with the world outside. He stayed nearly three years.

The book he wrote thirty years later, *Beyond Nature and Culture* (2005), is one of the most important works of twentieth-century anthropology, and its argument is already in the title. The distinction between nature and culture, which the modern West treats as self-evident, the place every discussion of the human and the non-human starts from, is not universal. It is the ontology of one cultural tradition among the many human beings have built.

Descola sorted human ontologies into four types, according to how a group arranges the relation between the interiority of things (soul, mind, subjectivity) and their physicality (body, material form).

Naturalism, the ontology of the modern West since the seventeenth century, grants interiority to human beings alone and leaves the non-human world as pure physicality, governed by laws and empty of subjectivity. It is the only one of the four that produces a split between nature and culture. *Animism*, found among many Amazonian, Siberian and Australian peoples, grants every being — animals, plants, rivers, rocks — the same interiority as human beings; the differences between them are physical, not essential. *Totemism* shares both interiority and physicality across groups of humans and non-humans: a clan and its totemic animal have one essence between them. *Analogism*, the ontology of traditional China, of Ayurvedic medicine, of medieval Europe, of the Mesoamerican civilisations, sees every being as differing in both interiority and physicality, and then connects them all through networks of analogy, correspondence and sympathy: the position of the stars answers to the health of the body, the properties of a plant to the shape of its leaves.

Naturalism, our own, is not truer than the other three. It is only younger.

Animists Have No Word for Nature

Descola went looking, among the Achuar, for the word that meant nature. He did not find it. The vocabulary was not lacking; the concept was.

The forest, for the Achuar, is not nature. It is a population of subjects. Plants, animals, rivers and weather all possess *wakan*, an inner principle of the same kind as the one human beings possess. Animals live in societies built like human ones, with chiefs, rules, families and quarrels. Cultivated plants are women, tended by human women who keep relations of kinship with them. The jaguar is a warrior. The anaconda is a shaman. The world is not divided into subjects, meaning us, and objects, meaning everything else: it is a mesh of subjectivities crossing one another.

Getting through such a world does not call for a relationship with nature. It calls for a working set of social relations with particular non-humans: treating the forest as a community rather than an environment, and respecting it the way one respects an interlocutor rather than the way one respects a resource.

The Brazilian anthropologist Eduardo Viveiros de Castro carried the insight further with *Amerindian perspectivism*. Many Amazonian peoples hold that every being in the world — human, animal, plant, spirit — sees the same reality from a position determined by the shape of its body. What the human sees as blood, the jaguar sees as manioc beer. What the human sees as a scatter of huts, the jaguar sees as a village. This is not cultural relativism but *multinaturalism*: not one nature seen by many cultures, but many natures inhabited by one kind of subjectivity.

The consequence is severe. In these ontologies, "protecting nature" cannot be translated, not because nobody worries about the non-human world, but because the worry does not take that shape. You do not protect nature; you keep the right relations with the non-human subjects of your territory. The question is not how to preserve the environment. It is how to behave well towards the beings you share the world with. It is a different question. It leads to different answers.

The Pluriverse

Descola's conclusion is this: there is no single nature contemplated by many cultures. There are many natures-cultures, many ontologies, many ways of distributing subjectivity and physicality among the beings of the world. The modern West, with its clean division between

a kingdom of subjects (human, cultural) and a kingdom of objects (non-human, natural), is one of those ways. Not the oldest, not the most widespread, not obviously the best suited to thinking about how species live together.

Descola calls this plurality the *pluriverse*, against the naturalist *universe*, which assumes one objective nature onto which cultures project their various readings. The pluriverse is not relativism. It does not claim that all ontologies are equivalent. It claims that a choice exists, and that the West has forgotten there was one, persuaded that its own arrangement is simply how things are.

This has practical weight for ecological thinking. Mainstream Western environmentalism asks us to respect nature, reduce human impact, give space back to the wild. It assumes a separation between humans and non-humans, a zone of purity to be defended from interference. But the separation is a cultural artefact, and not always a working one. The most biodiverse territories on the planet are often those inhabited for thousands of years by indigenous peoples who never stopped interacting with them intensively, because their ontology had no nature to be kept at arm's length, only a web of relations to be kept in balance.

Perhaps the ecology of the future does not need to rediscover nature. It needs to learn to treat non-humans — animals, plants, rivers, microbes, climates — as interlocutors rather than background, as parties to a relation rather than objects of protection. Some human traditions have never stopped doing exactly that. The West will have to learn it a second time, and it may have to leave the word behind.

Islam, Hinduism, Buddhism: Other Trajectories

The naturalist cut Descola describes is one arrangement out of four, not a universal destiny. The great religious traditions of Asia and the Near East differ enormously among themselves, yet nearly all of them share something the Western theology of dominion, the subject of Part Two, does not: none of them draws so sharp a line between a sovereign humanity and a nature reduced to inert matter.

The Quran gives man the office of *khalifa*, God's vicegerent on earth (2:30), but the authority is bounded, not absolute: creation is received in *amana*, in trust, and an account will be required. The principle of *mizan*, the balance God has set in all things (55:7-9), forbids disturbing it at will. And the Quran says repeatedly that every element

of creation, from the sun to the mountains to the birds in flight, is already in a state of *islam*, of submission and praise, quite apart from man: nature does not wait for man in order to stand in a relation to the divine. It is already in one.

Hinduism has no comparable line because it has no prior premise of matter stripped of the sacred. Rivers, mountains and animals are frequently deities themselves or the vehicles of deities — the Ganges is a goddess, the cow is holy — and the Vedantic *Brahman*, the ultimate reality pervading everything, makes the clean split between spirit and matter that Descartes will depend on hard to state in the same terms. Even where Samkhya philosophy separates *Purusha* (consciousness) from *Prakriti* (nature, matter), *Prakriti* stays personified, active, partly divine. Never Descartes's inert machine.

Buddhism reaches a kindred conclusion from the opposite direction to Arne Naess, whose deep ecology Part Three takes up. Naess expands a self that starts out individual until it takes in the ecosystem; the doctrine of *pratityasamutpada*, dependent origination, denies from the start that there is any substantial separate self to expand. Every phenomenon, including the one we call "I", arises in mutual dependence with everything else. There is no boundary to abolish, because the boundary was never more than a useful convention. It is the insight that will guide Gary Snyder's practice, by way of Zen, in Part Five: not a theory about nature but a way of inhabiting a place without assuming, from the first step, a separation to be closed.

None of the three does away with the word nature as the post-naturalist thinking of Part Five will. Islamic *mizan*, Hindu *Brahman*, Buddhist dependent origination are all positive concepts, not subtractions. But none of them begins from the Cartesian premise of matter as a mute and separate mechanism, the premise the West has had to work its way out of, laboriously and only recently.

Part Two: How the West Invented Nature

Aristotle and Physis

The Greek word we translate as nature is *physis* (φύσις), from *phyein*, to grow, to come forth of itself. The *physis* of a thing is the way it unfolds on its own, without being forced. It stands against *nomos*, law and convention, and against *techne*, art and deliberate making. What happens by *physis* happens by itself; what happens by *techne* is made by somebody's hands.

The difference from the modern concept is decisive: Aristotle's *physis* does not exclude human beings. Humans have a *physis* too, and it inclines them towards life in the *polis*. Aristotle says so outright: man is by nature a *zoon politikon*, a political animal. Life in common is not an artifice laid over human nature. It *is* human nature. The boundary does not run between humans and non-humans; it runs between what grows of itself — plants, animals, humans — and what gets manufactured: tools, buildings, positive law.

This is a very different cut from the modern one. Aristotle's world is teleological: every being has an end, a *telos*, that it tends towards of its own accord. An acorn tends towards oak. A human being tends towards citizen. Everything moves towards its own completion. Nature is not an indifferent mechanism but an order aimed at ends, and human beings belong to it entirely.

Latin *natura*, from *nasci*, to be born, inherits *physis* and adds something of its own, a faintly spatial shading, a sense of that-which-comes-forth. For Cicero and the Stoics nature still includes human reason as its highest expression. But the word now carries the possibility of a boundary that Greek *physis* never had. It will be fifteen centuries before anyone draws it with surgical precision.

Genesis: Nature as Gift and Dominion

Between Aristotle's *physis* and Descartes's machine lies a gap of fifteen centuries that this book has so far crossed in silence. It is not a gap. It is the period in which Judaeo-Christian theology rebuilt the relation between man and the non-human world in a way that would make the Cartesian cut possible centuries later.

The first chapter of Genesis contains the formula environmental

history quotes most often and argues over most fiercely: "Fill the earth and subdue it; and have dominion over the fish of the sea, and over the birds of the air, and over every living thing that moves upon the earth" (Genesis 1:28). The Hebrew verbs *radah*, to rule, and *kavash*, to subdue, describe a vertical relation. Man, made in the image of God, receives an authority over the rest of creation that no Greek *physis* had ever granted him. For Aristotle man was one living being among others, marked out by reason but woven into the same teleological order as plants and animals. For Genesis man is a categorical exception from the first day: created last, in the likeness of the creator, with an explicit mandate to govern the rest.

In 1967 the American historian Lynn White Jr published a short and explosive essay in *Science*, "The Historical Roots of Our Ecologic Crisis", among the most cited and most contested texts in the whole of environmental history. His thesis: Western Christianity, in its Latin form, is "the most anthropocentric religion the world has seen". By destroying pagan animism, which had filled woods and springs with spirits that had to be respected, and putting in its place a transcendent God who hands man dominion over matter, Christianity removed the last psychological brake on exploitation. Not the sole cause of the ecological crisis, White argued, but the cultural precondition that made everything else thinkable, including, centuries later, the Cartesian project of becoming masters and possessors of nature.

White's thesis simplifies a tradition more complicated than he allows. Augustine, in the fifth century, looks at nature through the lens of sin: the physical world is no longer the uncorrupted garden of Eden but a fallen theatre in which the exiled human soul should turn towards God rather than towards creatures. That view devalues nature rather than exploiting it. Thomas Aquinas, in the thirteenth century, folds Aristotelian teleology into the Christian frame instead: every being has an end, but the ends are ranked. Plants exist for animals, animals for man, everything for the glory of God. The *Summa Theologiae* puts it without hedging: killing animals is lawful, because providence has ordered them to their natural end, which is to serve man. It is the first systematic Western statement of an instrumental hierarchy of being, and it anticipates by four centuries what Descartes will say in the language of mechanics rather than theology.

There is a further operation that official theological discussion usually passes over. The New Testament does not remove the animal. It allegorises it. The lamb is Christ, the dove is the Holy Spirit, the serpent is the devil, the fatted calf is the forgiveness of the merciful father. As Michel Onfray observes in *Cosmos* (2015), the Judaeo-

Christian tradition "strips the animal of its flesh and its bones in order to concern itself only with the conceptual animal. The signifier drains the beast of its blood in order to turn it into a symbolic meaning." What the Thomist hierarchy establishes in ontological terms, the New Testament had already carried out in linguistic ones: the animal as a suffering, sentient being has become a figure of speech. The beast that walks, swims or creeps on the earth exists in Scripture mainly as a mirror for the human soul.

But the same tradition keeps its own most radical refutation. Francis of Assisi, in the same century as Aquinas, writes the *Canticle of the Creatures* calling the sun brother and the moon sister, speaking of Brother Wind and Sister Water, in a language of kinship that flatly denies the hierarchy of dominion. White himself, in the 1967 essay, proposed Francis as a patron saint for ecologists: proof that the Christian tradition holds an alternative to dominion inside itself, a kinship with creation rather than a government over it. In 2015 Pope Francis, having taken the name of the saint of Assisi, published *Laudato si'*, which cites White's thesis in order to correct it. The root of the crisis is not the biblical dominion, the encyclical argues, but a distorted reading of it, one that severed ruling from keeping although both stand in the same book of Genesis, where God places man in the garden "to till it and keep it" (Genesis 2:15).

The Jewish tradition, from which the text of Genesis comes, develops an environmental ethic of its own that the Christian reading of dominion has often obscured. The rabbinic principle of *bal tashchit*, do not destroy, comes from a verse in Deuteronomy (20:19-20) forbidding the felling of fruit trees even during the siege of an enemy city, and the halakhic tradition extended it into a general principle against waste. On this reading the man of Genesis is less a master than a *shomer*, a keeper: the earth stays God's, and man answers for it.

What Genesis introduces, on any reading, is something Greek *physis* did not have: a *created* nature, with a beginning in time, ontologically distinct from its creator, and entrusted, with some degree of authority or of responsibility, to a single species. That double structure, creation as gift and creation as dominion, supplies the theological vocabulary within which Descartes, fifteen centuries later, will be able to restate in mechanical and secular terms a hierarchy that theology had already prepared.

Descartes: Nature as Machine

The decisive cut comes in 1637, with René Descartes.

The *Discourse on the Method* and the *Meditations* lay the foundations of what will be called mechanical philosophy: the physical world is a machine. Matter moves according to precise and universal mathematical laws; there is no purpose, no subjectivity, no interiority in anything corporeal. The single exception is the human being, who has *res cogitans*, thinking substance, alongside the *res extensa* shared with the rest of the world. Animals are automata, biological contrivances without souls, whose apparent suffering is on a par with the creaking of a mechanism. The cry of a beaten dog is not pain. It is a system's mechanical response to a physical stimulus.

The doctrine did not stay abstract. Nicolas Malebranche, the Cartesian philosopher of occasionalism, is said to have kicked his own barking dog and told a startled visitor: "It cries out, but it feels nothing." True or legendary, the anecdote has become emblematic, because it condenses an operation that language had prepared long before. In Latin *animal* points to *anima*, breath, life; *bestia* designates, by definition, every animal except man. The passage from one to the other, from breathing creature to mechanical device, was not one philosopher's doing. It was the work of a long chain, from Genesis to the Church Fathers, from Plato to Descartes, each link helping to empty the animal of its interiority. Onfray puts it harshly in *Cosmos*: Descartes did not know that he was philosophically preparing "an orgy of corpses eaten by future corpses without a shred of pity".

The fracture Descola describes as one of four possible ontologies receives here its definitive philosophical statement. On one side, human beings with their minds, their souls, their subjectivity. On the other, nature as a machine without interiority, available for analysis, for understanding, for control. Descartes did not invent the exploitation of nature, but he issued its philosophical licence. In the *Discourse* he wrote that the scientific method would let us make ourselves "masters and possessors of nature". The phrasing is exact and programmatic: nature as an object of possession, humans as sovereign subjects.

The intellectual consequences were enormous. Newton's physics, Lavoisier's chemistry, Hutton's geology and pre-Darwinian biology all develop inside this paradigm: the natural world as a mechanism describable in universal laws, populated by objects without subjectivity, knowable by separating the knowing subject from the known object. Nature is out there. The researcher is in here. The boundary is the premise of modern science.

The premise produced extraordinary knowledge. It also produced the idea Descola calls naturalism, that the world falls into two ontologically separate kingdoms, the human one of subjectivity, culture and freedom and the natural one of mechanism, law and necessity. An idea three hundred years old, not three thousand.

Rousseau: Nature as a Lost Moral Ideal

Jean-Jacques Rousseau does not question the Cartesian separation. He takes it for granted and reverses its sign.

In the *Discourse on the Origin of Inequality* (1755) Rousseau proposes one of the most influential thought experiments in Western history: the *état de nature*, the state of nature. Not as historical description, and he says plainly that it never existed in quite that form, but as a critical instrument, a hypothesis about what we would be without the institutions civilisation has produced: property, articulate language, social rank, the division of labour. The result is the *bon sauvage*, the good savage, solitary, healthy, innocent, guided only by immediate need and by an instinctive pity for others. Civilisation corrupts, and property corrupts first. "The first man who, having enclosed a piece of ground, bethought himself of saying *This is mine*, and found people simple enough to believe him, was the real founder of civil society."

The inversion of Descartes is total in its values and of a piece with it in structure: both assume the separation between the human and nature. Descartes valued it as the precondition of progress; Rousseau values it as the source of corruption. The separation itself neither of them questions.

Rousseau's cultural effect was immense and long-lasting. He set the template for ecological nostalgia: the idea that there was an original state of harmony with nature, that we fell out of it, and that we must return to it or at least lean that way. The equation of natural with good and artificial with corrupt, still running through the marketing of organic produce, the rhetoric of a return to simplicity and a certain popular environmentalism, comes from Rousseau even when the people using it have no idea. The natural as a moral category, as a guarantee of authenticity and innocence, is largely born in the *Discourse* of 1755.

Goethe and Humboldt: Romanticism Really Does Invent It

In 1782 the *Tiefurter Journal* published a short prose piece that was circulating in the Weimar circle and was attributed to Johann Wolfgang von Goethe. It was called simply *Die Natur*, and it began: "Nature! We are surrounded and embraced by her: powerless to separate ourselves from her, and powerless to penetrate beyond her." Nature appears in it as an omnipresent, unreadable mother who gives life and takes it back, who plays with her children, who never stops speaking and never gives up a secret. A female figure, generous and mysterious, faintly divine.

That English sentence is Thomas Henry Huxley's translation, and it had a second life worth recording. It opened the first issue of the journal *Nature*, on 4 November 1869. The periodical that would become the voice of modern science introduced itself with a Romantic prose poem about a mother nobody can understand.

Whoever actually wrote the piece, it crystallises the change Romanticism is bringing about. Nature is no longer the Cartesian mechanism nor Rousseau's lost Eden but a *living whole* that we are part of and that exceeds us. Goethe worked at this intuition for decades. His *Naturphilosophie* rejects Newtonian analytical decomposition and proposes instead an immersion in the phenomenon, a patient listening to what shows itself. His study of the metamorphosis of plants and his theory of colours are attempts to grasp nature from inside, as a living process rather than a mechanism to be taken apart.

Alexander von Humboldt took the intuition to planetary scale. His journey through the Americas between 1799 and 1804 was something new: not a military expedition nor a commercial survey, but a systematic listening to what the Earth says about itself. Humboldt measured temperatures, altitudes, chemical compositions, species distributions and terrestrial magnetism, and then went looking for the connections. Vegetation follows altitude bands identically in the Andes, the Alps and the Himalaya: the mountain is everywhere the same shape of the world. Climate is not a local phenomenon but a system. Deforestation on the plains of Venezuela was lowering the level of Lake Valencia and altering the rainfall, and Humboldt was the first to document a human modification of climate.

Andrea Wulf, in *The Invention of Nature* (2015), argues that Humboldt literally invented nature in the sense we now give the word: an interconnected totality, a living system, an aesthetic and a scientific experience at once. Before Humboldt, people studied plants, animals, minerals and weather as separate objects. After Humboldt there was something called nature, a coherent and beautiful whole, worth

contemplating and worth defending. An invention in the most precise sense: a discovery that is also a construction.

The Painted Landscape: Learning to See Nature

One invention came before the philosophers' and the scientists' and worked alongside them, and it went deeper because it did not travel through concepts but through the eyes: landscape painting. For most of the history of Western art landscape was not a subject. It was the ground in front of which something important happened, a crucifixion, a portrait, a battle. Nobody looked at the ground; the eye crossed it on the way to the figure. Only in the seventeenth century, first in the Netherlands and then with the Frenchman Claude Lorrain, does landscape become an independent and widespread genre: the golden light of an idealised countryside, seen for its own sake, worth a canvas.

Claude's influence went well beyond painting. In the eighteenth century travellers on the Grand Tour carried a Claude glass, a small convex mirror with a faint tint. To admire a view they turned their backs on it and looked at its reflection, which reduced the colours to a warm key and composed the planes as in a painting. It is the perfect image of the mechanism: to see nature as nature you first had to turn it into a picture. The gaze was not direct. It was mediated by a pictorial convention.

Out of this comes the eighteenth-century British category of the Picturesque, in which William Gilpin codifies rules for judging a landscape by how far it resembles a painting. The picture no longer imitates nature; nature is now assessed against the picture. Alongside it, Edmund Burke's *Philosophical Enquiry into the Origin of Our Ideas of the Sublime and Beautiful* (1757) supplies the emotional vocabulary of the other great category: the sublime, the pleasure mixed with terror raised by mountains, storms and chasms, everything that exceeds human measure. The Alps, feared for centuries as a hideous obstacle, become within a few decades a destination of aesthetic pilgrimage.

Romanticism carries all this to its height. Caspar David Friedrich paints solitary figures seen from behind against immensities of fog and sea (*Wanderer above the Sea of Fog*, c. 1818): nature as a spiritual otherness against which the individual measures himself. Turner dissolves form into light and atmosphere, and in *Rain, Steam and Speed* (1844) lets a locomotive into the sublime, technology inside the landscape. Constable does the opposite, painting the domesticated

English countryside of mills and hay carts (*The Hay Wain*, 1821): a natural landscape that is in fact a landscape worked from end to end, agricultural, inhabited.

The most instructive case for this argument is the painting of the American wilderness, from Thomas Cole and the Hudson River School to Albert Bierstadt. In the middle of the nineteenth century they painted the valleys and mountains of the continent as a primordial nature, immense and untouched, a cathedral without people. Those canvases were among the instruments that built the myth of wilderness and fed the idea of national parks. America learned to see its own territory as virgin nature by looking at paintings, paintings that systematically erased the native populations who had inhabited and shaped that territory for thousands of years. William Cronon will come back to the point, critically, in Part Five.

The lesson is the one that runs through the whole book, made visible. Painting did not reflect a nature that was already out there, waiting to be portrayed. It taught the eye to isolate a portion of the world, to frame it, to contemplate it from a distance and to revere it. The frame of a picture is the construction made literal, and it is drawn to leave two things outside: the eye that looks, and the hands that did the work.

Leopardi: Nature the Stepmother

In 1827 Giacomo Leopardi published the *Operette morali*. One of the dialogues stages an improbable encounter. An Icelander, who has spent his life fleeing civilisation in search of an uncontaminated nature, meets Nature herself. He tells her he has endured the rigours of climate, disease, wild animals, the cold of the North and the heat of the South. He complains: he had tried to harm nobody, he had simply tried to live in peace. Why has nature persecuted him like this?

Nature answers with olympian indifference: "When I harm you in any way and by any means, I am unaware of it, just as in general I am unaware of your existence, except in so far as, treating you as I treat everything else, you happen to be of use to me." I do not hate you, Nature tells the Icelander. I do not love you. I do not know that you exist, except as an interchangeable part in the universal mechanism of life and death. Cruelty is not in my character, because I have no character. I am indifferent by constitution.

Leopardi wrote this in the same years in which Humboldt was crossing

the Andes and Goethe was working out his *Naturphilosophie*. They are contemporaries who seem to inhabit opposite worlds. Where the Romantics see a living and generous mother, Leopardi sees a blind stepmother. Where the Romantic sublime finds consolation and grandeur, Leopardi's sublime finds the annihilation of the human claim. *La Ginestra* (1836), his last great poem, is written in sight of Vesuvius, which buried Pompeii and may yet bury everything else: the broom growing on the volcano's flanks holds no illusions about its own fragility, and that honesty is its dignity.

Leopardi's position is not decorative pessimism. It is an epistemological critique of Romanticism: nature does not speak to human beings, does not love them, does not regard them. Assigning moral meaning to the natural world, nature as refuge, as model, as redemption, is human projection. The cosmos is silent. The right response is not despair but solidarity among humans in the face of a universe that does not know we are here. Leopardi anticipates by more than a century some of the most radical insights of Anthropocene philosophy, and he does it from a hill in Recanati, without going anywhere.

Part Three: The Living World, from Darwin to Lovelock

Darwin Dissolves the Boundary

In 1859, with *On the Origin of Species*, Charles Darwin pulled down the assumption the Cartesian separation had been built on: that human beings occupy an ontological category of their own, distinct from the rest of the living world and above it.

Evolution by natural selection knows no privileged categories. There is no fundamental discontinuity between species, only gradients of kinship, variations accumulated over time, adaptations to shifting conditions. We share almost ninety-nine per cent of our genetic material with chimpanzees. We share the basic machinery of cellular metabolism with yeasts. We came out of the same process that produced snails, pines, corals and whales, a blind process with no purpose and no plan. Not the peak of an established order, but one branch among millions on a tree that has no peak.

The consequences for the concept of nature cut both ways. On one side the wall between human and natural becomes untenable: if we evolved from non-human ancestors, on what grounds do we claim a position outside nature? On the other the concept swells until it risks dissolving. If everything that exists is a product of natural selection, language and morality and art and religion included, then what is left that could be *against* nature? The word starts to mean simply real, or existing, and stops distinguishing anything from anything.

Darwin also brought down Aristotle's teleological nature. Evolution has no *telos*. Species do not tend towards an end, do not *perfect* themselves, do not *improve* in any absolute sense; they adapt to local conditions, contingent and temporary. Nature is not an order aimed at ends but a process with no direction. This was probably the deeper revolution, deeper than the kinship with apes that popular culture reduced to scandal. Losing the *telos* meant losing the web of meaning the concept of nature had been woven into since antiquity.

Ecology as a Discipline: Systems, Not Eden

In 1866, six years after *On the Origin of Species* appeared in German, Ernst Haeckel coined the word *Ökologie*, ecology, and defined it as the

study of the relations between organisms and their environment. The new discipline looked set to reveal at last what nature really is, beyond the Romantic projections. It revealed something else.

The first thing ecology showed is that there is no balance. The balance of nature, that Romantic and pre-scientific idea of a stable order which restores itself, is an unsustainable simplification. Ecosystems do not naturally tend towards rest. They oscillate, they get disturbed, they suffer fires and floods and droughts, they collapse and rebuild in different shapes. The stability we observe in some environments is a dynamic equilibrium held up by interactions under constant tension: not a peace but an ecological cold war. Competition, parasitism, predation and symbiosis all coexist in the same weave, without morals and without preferences.

The second thing was more awkward still. Wilderness, untouched nature, the ecological Eden, turned out never to have existed historically, or, where it did, to have been the product of particular human events. William Cronon, a historian of the American environment, documented in *The Trouble with Wilderness* (1995) how the concept assumes a land *empty of humanity*, and how that assumption is historically false. Pre-Columbian America had been deeply modified by thousands of years of indigenous agriculture, controlled burning and systematic hunting. The forests European colonists described as virgin were partly the result of a demographic collapse, up to ninety per cent in some areas, among indigenous populations after contact with European disease. Wilderness was, in part, a forest growing back over a human silence. The national parks John Muir fought to establish were created partly by forcibly removing the native populations who had lived in them for generations: to make room for untouched nature, you first had to empty out the humans who did not match the picture.

Ecology as a science steadily eroded the ground the myth of nature stood on. The more it studied the thing, the less the thing resembled the picture.

Lovelock: Gaia

In 1965 James Lovelock was an atmospheric chemist working for NASA on a practical problem: how do you establish, from a distance, whether a planet holds life? His answer was unexpected. You do not look for individual organisms. You look at the composition of the atmosphere. A planet without life, like Mars or Venus, drifts towards

an inert chemical equilibrium. A planet with life keeps its atmosphere in permanent chemical disequilibrium, because living organisms are constantly altering it for their own ends. Life gives itself away in the air it breathes.

The insight led him, in the 1970s and in collaboration with the microbiologist Lynn Margulis, to the Gaia hypothesis: the Earth's biosphere, meaning every living organism, and its physical environment, meaning atmosphere, oceans and lithosphere, form a single complex self-regulating system that maintains the conditions suitable for life. Life is not a passive guest of the environment. It alters the environment actively, and those alterations feed back in ways that hold the conditions life itself requires.

Lovelock's examples were striking. The oxygen content of the Earth's atmosphere, twenty-one per cent, has held steady for hundreds of millions of years despite the scope for enormous swings: significantly higher and fires would start spontaneously across the planet, significantly lower and aerobic life would suffocate. The Earth's average temperature has stayed habitable for over three billion years despite a thirty per cent rise in solar output since life took its first steps. These are not passive balances. They are dynamic homeostases, held by feedback loops in which the collective behaviour of organisms regulates the environment on a planetary scale.

Gaia was controversial and still is. The commonest charge was disguised teleology: the hypothesis seemed to imply that the Earth *wants* to maintain conditions fit for life, as though it had an intention. Lovelock rejected the reading, insisting on feedback mechanisms rather than purpose. But the difficulty of discussing Gaia without intentional metaphors — an Earth that *responds*, that *corrects*, that *tends* towards a state — is itself a signal. The system is too complex and too integrated to be described adequately in the vocabulary of classical physics. The distinction between living organisms and non-living environment, which had looked obvious, becomes within Gaia a provisional methodological convenience rather than an ontological separation.

Naess: The Ecological Self

In 1973 Arne Naess — a Norwegian philosopher who had climbed in the Himalaya, read Spinoza up on Hallingskarvet and translated Gandhi into ecological terms — published a short paper in *Inquiry* that split environmental thought in two: "The Shallow and the Deep, Long-

Range Ecology Movement". The distinction is in the title. *Shallow* ecology fights pollution and resource depletion in the name of human welfare: nature must be protected because it is useful, because ecosystem services have economic value, because biodiversity holds pharmaceutical molecules still to be found. *Deep* ecology starts somewhere else: every living being has value in itself, whatever its usefulness to our species. The reason to protect a whale is not that whales move us, or that they balance marine ecosystems. It is that the whale has a claim to exist which does not depend on our looking at it.

Naess's most radical move, though, was the *ecological self*. Traditional environmental ethics had a structural problem: how do I take care of something I do not feel part of? The duty towards nature stays external, imposed, effortful. Naess shifted the starting point from duty to identity. The self is not confined to the boundary of the skin or the individual body. It can expand. A parent who risks their life for a child is not applying a moral principle; they are protecting themselves in an enlarged sense, and feel no constraint at all in doing it. Anyone who has meditated for years has had experiences in which the boundary between self and surroundings dissolves. Spinoza, whom Naess read with devotion, had put the same insight as *Deus sive Natura*: one substance, of which minds and bodies and forests and seas are modifications. "If your self in the wide sense embraces another being," Naess wrote, "you need no moral exhortation to show care. You care for it as you care for yourself, without feeling under any moral obligation."

The ecological self is not mysticism. It is the philosophical consequence of what Darwin and Lovelock had shown scientifically. If we evolved out of the same process that produced lichens and oaks, and if the biosphere works as an integrated system we are part of, then the boundary between the individual self and the ecosystem is a convention, not an ontology. Naess worked these principles into his *Ecosophy T*, where the T stood for Tvergastein, the bare hut at fifteen hundred metres on Hallingskarvet where he spent every summer, without electricity and without heating. This was not asceticism. It was an attempt to make the thinking match the place, the philosophy match the life.

Naess holds a crucial and paradoxical position in this book. He is the thinker who took the lesson of ecological science more seriously than anyone and drew the most consistent ethical conclusion from it. But the grandeur of the attempt also exposes the limit of the project: deep ecology still assumes a distinction between a self that expands and a nature it expands towards. The boundary is blurred, not removed. The

idea of a nature with intrinsic value keeps standing, with its sign reversed, the very Cartesian separation it meant to overcome. Morton, Latour and Haraway will pick up that unresolved tension in Part Five, trying to carry the argument past the point where Naess stopped.

The Paradox: The More We Study It, the More It Vanishes

A single thread runs from Darwin through scientific ecology to Lovelock, and it points one way: the more natural science studies nature, the less stable the concept becomes.

Darwin showed that the boundary between human and non-human is a gradient, not a line. Ecology showed that the balance of nature is an abstraction and wilderness a projection. Lovelock showed that the boundary between life and environment is methodological rather than real: a planet that works as an integrated system will not divide into subjects, the organisms, and background, the physical environment. The ground is not background; it is part of the living system, altered by organisms and altering them in turn. The atmosphere is not a container; it is the product of the collective metabolism of the biosphere.

Here is the paradox. Science came into being partly to reveal what nature really is, beneath the cultural projections. The more it reveals, the less the object resembles the concept. Not because the physical world turns out to be less real than we thought; it is more real, more complex, more interconnected. But the container we called nature, bounded, separate, stable, set against the human, does not match what we find when we look closely.

Timothy Morton, a philosopher and critic of ecological aesthetics, has put the insight in its most radical form. The trouble with ecology is not that we fail to care enough about nature. The trouble is that the concept of nature itself, as a separate and pure space outside the human, obstructs ecological thinking. As long as we imagine nature as something *out there*, we can tell ourselves we are protecting it from outside, preserving certain areas as reserves of the pristine. It does not work like that. Climate has no borders. Microplastics do not respect national parks. Persistent organic pollutants turn up in the fat of Arctic whales and in human breast milk. The *mesh*, the web of connections between all beings living and non-living, has no inside and no outside. There is nowhere to stand outside nature, because there is nowhere outside the mesh. Morton comes in Part Five. First we have to cross the moment where the paradox became a crisis: the

Anthropocene.

Part Four: The Anthropocene, When Nature Ends

McKibben: The End of Nature

In 1989 Bill McKibben published a book whose title was already an argument: *The End of Nature*. Not the end of trees, rivers or animals. The end of nature as a category, as a separate and autonomous space independent of human influence.

The case was simple and devastating. Climate change caused by human activity means there is no longer a corner of the planet that does not carry the mark of our presence. The air you breathe in the remotest forest has a chemical composition altered by our factories. The rain falling on the Amazon carries industrial pollutants made in Europe and North America. The pattern of rainfall over the Himalaya depends in part on the CO_2 emissions of Beijing and Mumbai. The surface temperature of the Arctic Ocean is influenced by the engines of Los Angeles. There is no longer an outside to the human-planetary system. The boundary that defined nature, the boundary of what exists independently of us, has been crossed and cannot be recrossed.

McKibben wrote in an elegiac tone that gave away his background. He came out of the tradition of Thoreau and John Muir, out of the American cult of wilderness as a place of spiritual redemption, and he experienced the collapse of the boundary as a bereavement. His generation had believed that protecting nature meant preserving intact spaces, keeping them beyond the reach of industry and urbanisation. Now he was finding that a perimeter is not enough: climate does not respect the fences of national parks.

1989 was the year the Berlin Wall came down, and the world was redrawing its political maps. While collective attention was on the squares of Prague and Warsaw, McKibben was announcing that another wall was falling, invisible and much older, the one between the human and the natural. Nobody was looking.

The New Name of the Epoch

In 2000, at a scientific conference in Cuernavaca, Mexico, the Dutch atmospheric chemist Paul Crutzen lost his patience. The speaker kept talking about the Holocene, the geological epoch that began some

eleven thousand years ago with the end of the last glaciation, as though we were still in it. Crutzen interrupted: "No! We are in the Anthropocene!" Then he went outside to think about the word he had just used without having prepared it.

Two years later, in 2002, Crutzen published a one-page article in *Nature* titled "Geology of Mankind". The claim: human impact on Earth systems is now of such scale and permanence that it warrants declaring a new geological epoch. Not metaphorically. Stratigraphically. Geologists of the future, examining the rocks forming today, will find an unmistakable layer, with microplastics, artificial radioactive isotopes from nuclear testing, concrete, and a characteristic biological signature: the disappearance of thousands of species and the global spread of invasive ones carried by humans.

The question of *when* the Anthropocene began is still open. Some point to the Industrial Revolution, around 1800, and the start of systematic fossil fuel use. Others point to the post-war Great Acceleration, roughly 1950 to 1970, when almost every indicator of human impact — population, energy consumption, plastic production, nitrogen fixation, CO_2 emissions — began to climb exponentially. Others point to 16 July 1945: the Trinity test, the first artificial nuclear explosion, in New Mexico, which laid down radioactive isotopes in the atmosphere and in sediments across the planet, a global and instantaneous chemical signature that no natural event would have produced.

In 2024 the International Union of Geological Sciences voted against ratifying the Anthropocene as a new epoch. The refusal concerned technical aspects of the stratigraphic proposal, not the reality of the phenomenon. The concept remains among the most productive in contemporary science and culture, not because it settles the open questions but because it finally forces them to be asked in the right way. We are a geological force. That changes everything, including what the word nature means.

Koyaanisqatsi: The Anthropocene Before the Name

Twenty years before Crutzen said the word, somebody had already shown the thing. In 1982 the American director Godfrey Reggio, a former monk, presented *Koyaanisqatsi*, the first part of a trilogy that would continue with *Powaqqatsi* (1988) and *Naqoyqatsi* (2002). The title is a Hopi word meaning life out of balance, and the film's own closing definition gives it as "a state of life that calls for another way

of living". There is no dialogue, no narration and no characters. There is a sequence of images: natural landscapes shot in time-lapse, geological formations, clouds in accelerated motion, cut against cities, motorways, factories and human crowds filmed with the same technique, until the traffic on a motorway and the flow of a river become visually indistinguishable.

Philip Glass's score, built on the same additive and repetitive principles as his minimalist music, does not comment on the images. It carries them, accelerates them, makes them hypnotic. No voice says this is bad. There is only the juxtaposition, left to speak for itself: the geological landscape and the industrial landscape, shot in the same visual language, turn out to be the same thing seen at different timescales.

Koyaanisqatsi anticipates by visual means what the Anthropocene will state by scientific ones. There is no longer a photographable boundary between the natural system and the human one. Both now move by the same accelerated logic, and in front of a camera they have stopped being two things.

Kolbert: The Sixth Extinction and the White Sky

Elizabeth Kolbert spent years travelling the world to record what the Anthropocene was doing to other living things. The result was *The Sixth Extinction* (2014, Pulitzer Prize), a book that builds its argument as a sequence of visits: a bleached coral reef in the Pacific, a cave in Vermont where bats are dying of a fungal disease introduced from Europe, a forest in Panama where a fungus is wiping out amphibian populations across the planet, a reserve in Sumatra where the last Sumatran rhinos survive in captivity because in the wild there are too few of them left to breed.

The Earth has passed through five great mass extinctions in its history, events in which a substantial share of living species vanished within a geologically short interval. The last, sixty-six million years ago, was the asteroid impact that erased the non-avian dinosaurs. The current one is the sixth, and the cause is not an asteroid but a species: *Homo sapiens*. The present rate of extinction is estimated at between a hundred and a thousand times the background rate of earlier geological eras. The book's subtitle, *An Unnatural History*, is exact: unnatural, because the cause is something that within the Darwinian frame is itself a product of nature. The paradox is deliberate.

Under a White Sky (2021) picks up where *The Sixth Extinction* stopped and pushes the argument towards an uncomfortable conclusion. If we have altered planetary systems this deeply, the question is no longer whether to intervene; we are already intervening, and have been for centuries. The question is how. Kolbert visits the laboratories and the work sites where the answer is being tested: reintroducing extinct or nearly extinct species, bioengineering heat-resistant corals, fertilising oceans with iron to increase their CO_2 uptake, and finally the most radical project of all, injecting sulphate aerosols into the stratosphere to reflect sunlight and cool the planet. If that last technique were ever applied at scale, the result would be a sky permanently veiled in white: not the direct blue of sunlight but the diffuse light of a permanent artificial haze.

The title is an image and a question. The nature of the future is a white sky, a planetary system managed so heavily that even the light we get from the sun will be mediated by an engineering decision of ours. There is no going back to a pre-human baseline. There is only a move towards ever more intense and deliberate relations between our species and the living systems of the planet. The problem is not whether to intervene. It is how to do it without making worse the thing you are trying to correct.

Pievani and Varotto: The Planet We Inherited

Talk about the Anthropocene runs one risk above all: abstraction. The Earth system, the biosphere, biogeochemical cycles are necessary categories and distant ones, hard for the imagination to inhabit. Telmo Pievani and Mauro Varotto, a philosopher of biology and a geographer, have worked for years at bringing the Anthropocene back to the scale of an actual landscape.

In *Il giro del mondo nell'Antropocene* (2021) they travel the planet visiting the places where the human signature reads most clearly: the melting Arctic, the whitening coral reefs, the Asian megacities growing on clay soils that sink under their own weight, the agricultural plains that replaced tropical forest. Not a catalogue of disasters. A geographical enquiry into the shape the world is taking as a result of our presence.

In *Viaggio nell'Italia dell'Antropocene* (2021) the same enquiry turns domestic, and gains from it. Italy is one of the densest archives in the world for the history of interactions between humans and landscape. The Po Valley is among the most transformed areas in Europe, and not

by modern industry but by centuries and millennia of drainage, reclamation, irrigation and crop selection. The Ligurian terraces, the Venetian canals, the Apennine woods managed as a resource for centuries: everything that looks like Italian nature is in fact the sediment of thousands of years of relation between human communities and territory. The Italian Anthropocene did not start in 1945. It started with the Romans, and probably before.

This is what Pievani and Varotto contribute to the argument here: a demonstration that the Italian nature Italians protect, visit and mourn is already, almost in its entirety, a cultural landscape. The wood that looks wild is the wood the charcoal burners left because they could not reach it, or the wood that grew back after a medieval village was abandoned. The mountain stream runs where it runs partly because somebody, centuries ago, built a wall that turned it. The Anthropocene is not a future coming towards us. It is a past we have never stopped building.

Part Five: After Nature, New Figures

Latour: We Have Never Been Modern

Bruno Latour, sociologist, philosopher and historian of science, who died in 2022, spent fifty years dismantling the distinction the modern concept of nature rests on: the separation between facts, which are natural, objective, discovered by science, and values, which are social, subjective, produced by politics. The separation looks obvious to us. It is a fiction, Latour argued, and a fiction we have never actually practised.

The title of his best-known book, *We Have Never Been Modern* (1991), is the thesis. Modernity defined itself through what Latour calls the modern Constitution: an implicit agreement holding strictly apart the world of nature, studied by scientists who merely discover pre-existing facts, and the world of society, analysed by sociologists and politicians who manage human values. But while the separation was being declared and reinforced in theory, through institutions, disciplines and methods, in practice modernity was ceaselessly producing *hybrids*: entities that are natural and social at once, objects and subjects, facts and values.

The hole in the ozone layer: is that a natural fact or a political one? Both. It is the product of industrial chemicals, studied by atmospheric chemistry, regulated by international treaty, with effects on human health and on biodiversity. It cannot be filed cleanly under nature or under culture. The same goes for the AIDS virus. Biological? Social? Both: its spread is shaped by poverty, by homophobia, by health policy, by the pharmaceutical economy. The same goes for climate, forestry, intensive agriculture, selectively bred livestock, managed woodland. Modernity produced hybrids on an industrial scale while insisting it was keeping the two kingdoms apart.

David Quammen gave the insight the scale of a whole book. *Spillover* (2012) reconstructs the history of zoonotic diseases, the ones that jump from an animal species to us — Ebola, SARS, Nipah, HIV — and shows how each of them arises at exactly the point the modern Constitution wants kept separate: the cleared forest, the wild animal market, the intensive farm at the edge of a habitat. A virus does not choose which side of the nature-culture border to appear on. It emerges where human activity compresses the space between species, forcing a contact that ecology would otherwise have kept at a

distance. Quammen was writing in 2012, seven years before the world found out what a spillover event looks like at global scale; his book describes, in detail, the mechanism that would produce the SARS-CoV-2 pandemic.

The conclusion: we have never been modern, because we never really practised the separation we proclaimed. We have lived among hybrids, quasi-objects, quasi-subjects, entities that cross the border, without recognising them for what they are. The Anthropocene is the moment when that blindness becomes untenable. Climate is neither nature nor culture; it is both together, in a way no separate analysis will ever fully capture. Ecological questions are not scientific questions that later turn political. They are hybrid from the start. Every adequate answer begins by admitting it.

Morton: Ecology Without Nature

Timothy Morton, a British philosopher teaching in Houston, has proposed one of the most radical moves in the argument about nature: abolish it. Not as a nihilist gesture but as an ecological necessity.

In *Ecology without Nature* (2007) Morton argues that the concept of nature, as it works in our aesthetic and cultural tradition — a separate, pure space outside the human — obstructs ecological thinking rather than grounding it. As long as we imagine nature as something out there, we can persuade ourselves we might protect it from outside and from above, as managers of a system that is not ours. But that is precisely the gesture that produced the crisis: treating the non-human world as an available object, separate and governable.

Genuine ecological thinking requires recognising that we are neither inside nor outside nature. We are nodes in a web of interdependencies with other beings, a web Morton calls the *mesh*. The mesh has no internal borders. No line separates the natural from the artificial, the wild from the domesticated, the human from the non-human. There is only the weave, connected all the way through.

Hyperobjects (2013) introduces another instrument that has since become central. *Hyperobjects* are entities so massively distributed in space and time that we can never meet them directly, only through their local and partial manifestations. Climate is a hyperobject. The biosphere is a hyperobject. Evolution is a hyperobject. Global radioactivity is a hyperobject. We touch them through this drought, this cyclone, this genetic mutation, this reading on a Geiger counter,

and we never take hold of them whole. They are everywhere and nowhere. They precede us and will outlast us. And they are *viscous*: once you have met one, you cannot get it off you. Climate change follows you everywhere, into every conversation, every political decision, every architectural plan.

Nature as something separate, manageable, boundable was never compatible with the existence of hyperobjects. With the climate crisis, hyperobjects became impossible to ignore, and with them it became impossible to ignore that the boundary between us and the non-human is a fiction the mesh contradicts continuously, from every direction.

Cronon: The Trouble with Wilderness

William Cronon, a historian of the American environment, published in 1995 an essay that caused a scandal: "The Trouble with Wilderness; or, Getting Back to the Wrong Nature". The title alone was a provocation to an American environmental movement that had built its identity on the defence of wilderness.

Cronon's argument: wilderness, uncontaminated and uninhabited and sublime, is not a pre-existing reality that humans protected from modernity. It is a specific cultural construction, historically situated, with a traceable genealogy. Before Romanticism, wilderness was a word with negative weight: a dangerous, disorderly, hostile space. Romanticism turned it into the site of the sublime, of the encounter with the divine, of spiritual regeneration. John Muir and the founders of American conservation made it a secular theology: wild nature as the cathedral of America, the place where the soul is cleansed of industrial civilisation.

The trouble is that this theology required a territory *empty of humans*, and the territories designated as wilderness were not empty at all. They had been inhabited for thousands of years by indigenous peoples who had shaped them through systematic hunting, controlled burning and agriculture. Yellowstone was established in 1872 by forcibly removing the Shoshone and the other peoples living there. The American national parks were founded as wilderness by manufacturing the silence of their previous inhabitants. Untouched nature was created by erasing the traces of those who had lived in it for generations.

Cronon does not say that national parks are useless or that they should

not be protected. He says that the ideology of wilderness, with its demand for purity and human absence, is not an adequate guide for thinking about our relation to the non-human world. It builds a false dichotomy: either pristine nature, with no humans, or degraded nature, with humans in it. It leaves no room for the vast middle ground of lived, managed, inhabited landscapes — the worked forests, the terraces, the high pastures, the vineyards — which make up most of the living world we actually live in and deserve care at least as much as the famous protected areas.

A true story made that criticism less abstract. In 1996 Jon Krakauer published *Into the Wild*, reconstructing the short life of Christopher McCandless, a young graduate who in 1990 gave up family, money and identity to chase the myth of wilderness quite literally. He arrived in Alaska alone, with no survival experience, and settled in an abandoned bus on the Stampede Trail, where he starved to death after a little over a hundred days. Sean Penn made a film of it in 2007. The story moved millions of readers and viewers as an epic of purity and search, and read through Cronon it is also an involuntary demonstration of his thesis. McCandless was looking for an absolute nature with no human traces, and he died inside an industrial artefact, a Fairbanks City Transit System bus abandoned decades earlier, in a territory crossed by hunters, trappers and prospectors for over a century. Even the remotest Alaska was never empty. It was only required to be.

Haraway: Staying with the Trouble

Donna Haraway, the American philosopher and historian of science, can be recognised by a single trait: she refuses both easy exits. Not technological optimism, the promise that engineering will fix everything, and not catastrophism, the certainty that it is already too late. *Staying with the Trouble* (2016). Not solving it, not fleeing it. Inhabiting it.

The trouble Haraway wants to inhabit is the ecological crisis whole, with all its complexity and discomfort. The answer she proposes is neither technical nor political in the ordinary sense. It is relational. *Make kin, not babies*: the provocation that opens the book. On an overcrowded planet with resources under pressure, the imperative is not to reproduce biologically but to build networks of care and responsibility towards the other beings, human and non-human, we share the world with. Not a political programme. A practice.

Her term for our time is *Chthulucene*, a coinage built on *chthulu* — the name of a spider, not of Lovecraft's monster — and *kainos*, new, recent. An epoch defined not by the dominance of one species but by the sympoiesis, the making-together, of many interdependent ones. Against *autopoiesis*, the self-making of closed systems, Haraway offers sympoiesis as the model: living systems do not build themselves alone, they build themselves in relation, in response, in mutual dependence. The coral and its symbiotic algae. The lichen and its fungus. The wood and its mycorrhizae. Us and the billions of bacteria in our gut. We are always already a plural we.

For the argument of this book, Haraway points in the most radical direction: not protecting nature, which presupposes distance, separation and management from outside, but learning to make kin, to recognise kinship, with the particular non-humans who share our territory. Not a general programme for the environment, but attention and responsibility towards this wood, this species, this river. The particular against the abstract.

When Art Stops Painting Nature

Part Two showed painting putting a frame around the world and teaching the West to see Nature as a spectacle to be contemplated from a distance. In the twentieth century, as the concept enters its crisis, art performs the opposite gesture. It takes the frame away, walks out of the picture and into the territory. It stops representing nature from outside and starts intervening inside it, until the work and the landscape, the human gesture and the physical process, can no longer be told apart.

This is Land Art, which began in the United States at the end of the 1960s. In 1970 Robert Smithson used bulldozers to build the *Spiral Jetty*, a spiral of basalt and mud nearly five hundred metres long, coiling into the waters of the Great Salt Lake in Utah. It is not a picture of a lake. It is a form built inside the lake, exposed to salt, to evaporation, to the red algae that submerge it and give it back over the years. The work does not stand in front of nature; it is subject to nature's processes, and in fact it is one of them. Walter De Maria planted *The Lightning Field* (1977) in the New Mexico desert, a grid of metal poles waiting for lightning. Richard Long made the act of walking itself into a work (*A Line Made by Walking*, 1967), a minimal track in the grass that would close over. Andy Goldsworthy arranges leaves, ice and stones into ephemeral figures and photographs them as they come apart. None of these gestures represents nature. All of them

go through it, use it, hand themselves over to it.

One case takes the argument to its limit. In 1982 Agnes Denes sowed and harvested two acres of wheat, *Wheatfield — A Confrontation*, on a reclaimed landfill in Lower Manhattan, a few steps from Wall Street and the towers of the World Trade Center. The most unnatural natural field imaginable, planted in the financial heart of the planet, shows that what we call nature and what we call civilisation are not two separate territories but a decision about what to grow, where, and why.

In recent decades photography has taken up the baton. Edward Burtynsky uses large format to portray mines, marble quarries, oil fields, electronic waste dumps, drained fields: landscapes manufactured from end to end by human activity, of a terrible beauty that applies the Romantic category of the sublime no longer to mountains but to the industrial wounds of the planet. His work feeds into the Anthropocene Project and the documentary *Anthropocene: The Human Epoch* (2018). Olafur Eliasson, with *Ice Watch* (2014), carried blocks of ice broken off the Greenland ice sheet into the squares of European cities and let them melt in front of passers-by: he brings the nature that is dissolving physically inside human space, and makes it impossible to watch from a distance.

Where Romantic painting built a boundary in order to separate Nature and revere it, this art erases the boundary, or turns it back against the human world to show that there is no outside. It does with eyes and bodies what Latour and Morton do with concepts: it dissolves the line between the natural and the artificial. And in this it comes close to another non-conceptual answer, the one that comes next: stories.

Answering with Stories

If nature is dissolving as a category, eroded by Latour, abolished by Morton, historically relativised by Cronon, turned into sympoiesis by Haraway, what is left to think with about our relation to the non-human world? One possible answer, arriving from several different traditions, is: stories. Not theory, not the concept. The telling of particular things, in particular places, at particular moments.

John Green, the American writer best known for his novels for young adults, published *The Anthropocene Reviewed* in 2021: a collection of short essays reviewing, on a five-star scale, features of the human-shaped world. The Penguins of Madagascar. Sunsets. The Piggly

Wiggly supermarket chain. Canada geese. The QWERTY keyboard. The approach is deliberately oblique. The Anthropocene cannot be inhabited as an abstract concept, so Green breaks it into concrete fragments and comes at it through personal memory and incongruous detail. The tone moves between the comic and the melancholy, which is the right key for anyone trying to be present in an epoch that exceeds any single understanding.

Matteo Meschiari, the Italian anthropologist and writer, practises a still more experimental ecology. In *Antropocene fantastico* (2021) he mixes essay and fiction, science and speculative narrative, to produce a kind of thinking that aims not at synthesis but at immersion. This is not illustrating theory with examples. It is using the imagination as a legitimate cognitive instrument for thinking about what escapes direct conceptualisation. The fantastic as method.

Gary Snyder, the American poet of the Sierra Nevada, Pulitzer Prize for *Turtle Island* in 1975, has practised for seventy years a form of answer we might call, borrowing the title of his densest book, *the practice of the wild*. Not the defence of nature in the abstract: daily attention to a specific place. Snyder lived for decades in a house he built with his own hands in Nevada County, California, studied Zen Buddhism in Japan, spent time with the traditions of North American indigenous cultures, and recombined all of it not as decorative syncretism but as practice. The non-separation of self and environment is not a philosophical principle to be defended; it is an experience to be cultivated every morning, walking on ground you know name by name. The bioregionalism he helped to found does not ask us to save nature. It asks us to know our own place: the watershed, the seasons, the local species, the names of things in the different layers of time, geological, ecological, human. Where Morton dissolves the concept of nature with philosophy and Haraway replaces it with networks of care, Snyder goes round it with attention: the answer to the ecological crisis is not a general politics but the capacity to see precisely what is here, now, and what no universal concept will ever quite contain.

All three, by very different roads, point the same way. Where the concept of nature has failed, the story may yet succeed. Not because stories are truer than theories, but because some things can only be said through particularity, through what happens once and does not generalise. The ecological crisis is not only a problem to be solved. It is an experience to be inhabited, told and handed on. For that we need languages Aristotle, Descartes and even Morton cannot supply on their own.

Part Six: The Natural as Ideology

Natural as a Brand

In the European Union there is no legal definition of natural for most categories of food and cosmetics. The word is essentially free: anybody can print natural ingredients on any product without incurring a specific penalty. The result is visible on the shelves of any supermarket. Natural fruit juices containing synthetic preservatives. Natural cosmetics using petroleum-derived silicones. Natural mineral waters, as though there were an artificial kind. Natural snacks carrying levels of salt and sugar no unprocessed food would ever reach.

Natural, in contemporary marketing, does not describe a chemical composition, a production process or an effect on health. It describes a moral identity. The natural product promises that whoever buys it is a person who chooses the authentic, the healthy, the uncontaminated. The purchase is not a commercial transaction but an act of symbolic positioning. People buy the natural for the same reason that, following Rousseau, they go up into the mountains: to feel for a moment outside the corruption of the artificial.

The logic works because it draws on something real: unease at the complexity of modern production, the difficulty of knowing what is actually in what we eat or put on our skin, the legitimate wish to find our bearings in an opaque market. But the answer marketing offers, the natural label as a signal of trust, is empty. The label says nothing about what is in the jar. It says the seller has been listening.

The Myth of the Natural

In 2019 Dario Bressanini and Beatrice Mautino published *Contro natura*, a systematic demolition, conducted with scientific rigour and a certain polemical relish, of the equation between natural and good that governs much of the public conversation about food, health and the environment.

The first argument is chemical. Natural and artificial are not meaningful toxicological categories. Among the most poisonous substances known are natural products: botulinum toxin (natural), arsenic (natural), the coniine in hemlock (natural), the amanitin of

Amanita phalloides (natural). Apple pips contain cyanide (natural). Meanwhile a great many substances synthesised in a laboratory — medicines, several vitamins, most food preservatives — are perfectly safe or actively beneficial. The molecule is identical wherever it was made: synthetic vitamin C is chemically indistinguishable from vitamin C extracted from citrus. Natural tells you nothing useful about safety.

The second argument is agricultural. Almost nothing we eat is natural in the sense of unmodified by human intervention. The modern banana is a sterile hybrid, the product of millennia of artificial selection; the original fruit is small, full of hard seeds and close to inedible. Today's maize bears almost no resemblance to the wild teosinte it was developed from. The wheat we make bread with is a hexaploid, an organism with six sets of chromosomes, produced by complex crossings about ten thousand years ago. The natural products we consume are ancient cultural constructions, not bottled wildernesses.

The third argument is the most politically urgent. The naturalistic fallacy is dangerous when it is applied to medicine. The refusal of chemical vaccines in favour of natural remedies, the recourse to alternative therapies instead of conventional cancer treatment, the suspicion of anything bearing a pharmaceutical company's name: these are not irrational whims. They are the logical consequences of an idea mass culture has absorbed from Rousseau onwards, that the natural is good by definition and the artificial suspect by definition. As poetry the idea is attractive. As medicine it can kill people.

Daston: Nature as Norm

In 2019 Lorraine Daston, historian of science at the Max Planck Institute in Berlin, published a short and precise book with a title identical to Bressanini and Mautino's: *Against Nature*. Not a coincidence. A signal that something in contemporary public argument has brought very different authors to converge on the same target.

Daston's target is older and more deeply rooted. It is not food marketing but the millennia-old history of the appeal to nature as a moral argument. For centuries in the West, *that is against nature* was enough to close an ethical discussion. But what exactly does the appeal claim? Daston distinguishes three versions, which have historically alternated and overlapped.

First, nature as *regularity*. What happens regularly in nature is what ought to happen; departures from the natural norm are morally suspect. This logic has justified the condemnation of homosexuality (rare in nature — empirically false, but that is a separate problem), of contraception, of non-reproductive sexual practice. The objection is obvious: infanticide, sexual violence and cannibalism also happen regularly in nature. Frequency is not a moral guide.

Second, nature as *design*. Living beings were designed, by God or by evolution or by both, for a specific purpose, and using them against their natural purpose is wrong. This is the Aristotelian and Thomist tradition: the natural end of sexuality is reproduction, so any sexual act not ordered to reproduction violates natural purpose. The objection: who determines what the natural end is, and on what basis?

Third, nature as *spontaneous impulse*. Our natural inclinations, instincts, emotions and untutored desires are a reliable guide to the good. This is the Rousseauian tradition. The objection: spontaneous impulses include solidarity and aggression alike, empathy and tribalism alike. Which natural impulse should we follow?

Daston does not say the distinctions are meaningless. She says the appeal to nature, as a moral argument, is systematically unstable: what gets called natural varies enormously according to who is speaking, in which historical moment, and with what interest. The rhetorical form is constant; the content is interchangeable. It is one of the oldest tricks in moral argument, and it still works beautifully.

Environmentalism as Religion

Enrico Testa, known as Chicco, former president of Legambiente and former president of Enel, for years a polemically inconvenient voice in the Italian environmental debate, published *Contro (la) natura*, with the brackets in the title, which already says something about the intention. A third book in this section with *against nature* in the title. Not an editorial coincidence but a sign that something in the discourse about nature is drawing critical scrutiny from very different directions.

Testa's thesis: a part of contemporary environmentalism has stopped being a rational and scientific movement and turned into a belief system with quasi-religious features. Nature has become the sacred; human intervention has become sin; the technologies that might actually reduce environmental impact — nuclear power, precision

agriculture, genetic modification, geoengineering — are rejected as heresies rather than assessed as options. Ideological purity beats real harm reduction.

Testa is a provocateur with an agenda, and his positions are contestable on many points. But he has caught hold of something real. There is an environmentalism that does not distinguish between protecting ecosystems, an empirically verifiable objective, and preserving an idea of nature as pure and intact, a cultural and largely mythical one. When the border between ecological science and naturalistic mythology turns porous, the risk is fighting the wrong battles: against nuclear power in Germany while burning more lignite, against synthetic pesticides while promoting organic pesticides of equivalent toxicity, against genetically modified food while ignoring plant breeding methods that are far more invasive but carry no GM label.

Testa's observation does not concern the gravity of the ecological crisis, which he does not dispute, but the instruments used against it. And the question he raises is worth keeping open. When we defend nature, are we defending real ecosystems, or are we defending an idea of nature built up over centuries, the idea whose history this book has been tracing?

The Political Use of Nature

Nature is the most versatile argument in Western politics. Right and left, progressives and conservatives, ecologists and nationalists all draw on it, with opposite content and identical rhetorical structure.

On the left, nature has historically been the limit of capitalism, the common good the market cannot privatise, the source of rights that transcend positive law. The rights-of-nature movement, which has led several countries to grant legal personality to rivers and forests, extends the logic of human rights to non-humans, grounding it in a conception of nature as subject rather than object. Ecofeminism has connected domination over nature to domination over women, reading both as products of the same patriarchal logic of control and exploitation.

On the right, nature has been the source of social hierarchy and gender roles: what is natural, biologically determined, evolutionarily settled, ought not to be altered by social engineering. *Against nature* as a formula of moral condemnation aimed at homosexuality, at

transgender identity, at gender fluidity. Nature as an argument against change and in favour of tradition, of the biological, of the given.

In the nationalist and fascist tradition, nature took the form of *Heimat*, the homeland as landscape, the territory as the root of ethnic identity. National Socialist *Blut und Boden*, blood and soil, tied the identity of a people to the specific earth it lived on. Some forms of historical European environmentalism, protecting the landscape as a way of protecting national identity, had connections to that tradition even where the activists were unaware of them.

The structure is always the same: *this is natural, therefore it is right*, or *this is against nature, therefore it is wrong*. The content of natural is interchangeable, and depends on who is speaking and what they want to justify. Daston was right: the appeal to nature is a rhetorical form with no stable content. Whoever controls what gets called natural controls something very valuable, the authority of the fact you can lean on to close a moral argument.

And the final paradox. At precisely the moment when science tells us that nature as a separate and autonomous space no longer exists, that we live on a planet transformed from end to end by human activity, the political appeal to nature is more intense than ever. Everyone defends it. Nobody is sure what.

Epilogue: Nature Does Not Exist, So What?

What Remains When the Word Falls

Back to the view this book began with. The Altopiano di Pine'. The mountains all round, the lakes below. The same light, the same air, the same larches.

Nothing we can see has gone. The trees are there. The mountains. The lake. The raptors gliding on the thermals. The underground fungi connecting the roots. The microbes in the soil turning organic matter into available nourishment. The wind carrying seed from distant slopes. All of it is real, and more real, more complex, more interconnected than the concept of nature ever managed to say.

What has fallen is not the world. It is the container we organised the world with: the word nature as a separate and pure space set against the human. That container was built, and six parts have traced the building. From Greek philosophy to Cartesian mechanism, from Rousseau's Eden to Humboldt's Romantic invention, from Leopardi's challenge to the ecology that dismantles wilderness, from the Anthropocene to Latour's hybrids, from Daston's critique to the political use of the appeal to nature. Every stage showed the same thing. The boundary between human and non-human was not where we thought it was. It had never been there.

So what remains when the word falls? The more honest question remains. What are we actually talking about when we say we want to protect nature? This wood? This species? This watercourse? This climate? Concrete questions, specific and local and checkable, are far harder than general questions about the environment. They demand choices. They demand saying which beings count, to what extent, for what reason. They demand responsibility, which is exactly what the old word spared us.

Not Nostalgia, Responsibility

Bill McKibben wrote *The End of Nature* in an elegiac key, in 1989. It was a lament. Something precious had been lost, nature as a space outside the human, as uncontaminated otherness. The loss was real and the grief was understandable.

But elegy has a political limit. If the ecological crisis is the loss of a

paradise that will not return, the emotionally coherent response is nostalgia, and nostalgia does not produce choices. It produces mourning. Mourning may be necessary. It cannot be enough. The ecological crisis is not a fall from an original state of harmony. It is the result of specific choices, made by specific actors, at precise historical moments. The adoption of coal and oil as dominant energy sources. The industrial agricultural model that replaced crop diversity with monoculture. The planning policies that concreted over floodplains and drained the wetlands. The deregulation that let industry discharge pollutants into watercourses. None of these were natural inevitabilities. They were human decisions, taken by governments, companies, investors, consumers and voters.

If the crisis is the product of choices, different choices can work against it. Not the same ones, not in the same direction, but choices, taken deliberately, in full awareness of their consequences. That is the non-nostalgic position: not a return to a before that is gone, but taking responsibility for a now that we produced. The Anthropocene is not the end of history. It is the moment a species discovered it was a geological force, and has to learn to use that force intelligently instead of pretending not to have it.

The difference between elegy and responsibility is not emotional. It is political. Elegy looks back. Responsibility looks forward, not with naive optimism but in the knowledge that the world to come will be the product of choices either way, and that it is better to be the subject of those choices than their object.

A World Without Alibis

For most of Western history the category of the natural performed a silent and decisive function: it defined the domain of the *given*, the unchosen, the not-answerable-for. Floods were natural disasters. Droughts were natural. Epidemics were natural. Extinctions were natural. Even social inequalities, between men and women, between races, between classes, had at some point been justified as natural. Nature was the enclosure where you put whatever you could not take on.

The Anthropocene has shrunk that enclosure almost to nothing. There are no purely natural disasters any more: there are floods whose frequency and force depend on choices we made about land management and about climate. There are no purely natural extinctions: every species that disappears today does so in a context

shaped by our presence. There are no forests that grow or retreat independently of us. The domain of the given contracts. The domain of the chosen expands. And responsibility expands with it.

This is at once the most uncomfortable and the most productive thing the Anthropocene has given us: a world without alibis. A world in which we can no longer say *it is nature*, *it has always been this way*, *it is inevitable*. We have to say: it is the result of choices we made, and we can make different ones. We can choose which energy to use. We can choose what to eat and how to produce it. We can choose which species to protect, which ecosystems to restore, which climatic changes to try to slow. We can choose, and that means we answer for what we choose and for what we do not.

Back to the view one last time. The larches, the lakes, the mountains. Not *nature at last*. Not *real nature*. Something older and stranger than that: a landscape that is the sediment of geological time, of thousands of years of human presence, of choices made by people we will never know, and of our own presence here, now. Not nature. The world. Harder to protect with a single word, and perhaps for that reason easier to inhabit with your eyes open.

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1. *The Golem — Clay and Word*

About the Author

Giovanni Martini is a sociologist living in Trentino, on the Pine' plateau in northern Italy. An omnivorous reader with a preference for speculative fiction, philosophy and science, he has always looked for connections between distant disciplines: physics and consciousness, East and West, myth and technology. He prefers unresolved tensions to easy syntheses. *Errancies* is the English counterpart of his Italian series *Collana Erranze*, and the place where he collects these border crossings.